

Application Serial No. 10/628,651
Preliminary Amendment dated July 26, 2004

AMENDMENTS TO THE CLAIMS

Please amend claims 1, 2, 8 and 14, and add new claims 22-34 as follows:

1. (Currently Amended) A solid brazing component having a liquidus temperature above 840°F selected from the group consisting of wire, strip, foil and preforms, wherein the brazing component is made of an alloy consisting essentially of, in weight percent:

- (a) about 4-9% phosphorus;
- (b) about 0.1-10% tin;
- (c) about 0.1-15% nickel;
- (d) ~~up to~~ about 0.1-18% silver;
- (e) up to about 3% silicon;
- (f) up to about 4% antimony;
- (g) up to about 3% manganese; and

the balance copper.

2. (Currently Amended) The component of claim 1 wherein the alloy consists essentially of:

- (d) about ~~0.1~~ 1-18% silver.

3. (Original) The component of claim 2 wherein the alloy consists essentially of:

- (c) about 3-10% nickel.

4. (Original) The component of claim 1 wherein the alloy consists essentially of:

- (c) about 5-8% nickel.

5. (Original) The component of claim 1 wherein the brazing component has a liquidus temperature less than about 1410°F and a solidus temperature less than about 1100°F.

Application Serial No. 10/628,651
Preliminary Amendment dated July 26, 2004

6. (Original) The component of claim 5 wherein the alloy consists essentially of:

- (b) about 4-8% tin; and
- (c) about 5-8% nickel.
- (d) about 1-18% silver; and
- (e) about 0.001-0.1% silicon.

7. (Original) The component of claim 6 wherein the alloy exhibits a major thermal arrest at a temperature below about 1250°F.

8. (Currently Amended) The component of claim 1 wherein the alloy consists essentially of:

- (a) about 4-9% phosphorus;
- (b) about 4-8% tin;
- (c) about 3-10% nickel;
- (d) ~~up to~~ about 1-18% silver; and

the balance copper.

9. (Original) The component of claim 1 wherein the alloy consists essentially of:

- (a) about 4-7% phosphorus;
- (b) about 4-8% tin;
- (c) about 5-8% nickel;
- (d) about 6-15% silver;
- (e) about 0.001-1% silicon; and

the balance copper.

10. (Original) The component of claim 2 wherein the alloy consists essentially of:

- (a) about 5-6% phosphorus;
- (b) about 6-7% tin;
- (c) about 5-8% nickel;

Application Serial No. 10/628,651
Preliminary Amendment dated July 26, 2004

- (d) about 6-10% silver;
 - (e) about 0.015-0.02% silicon; and
- the balance copper.

11. (Original) The component of claim 2 wherein the alloy consists essentially of:

- (a) about 5-6% phosphorus;
 - (b) about 6-7% tin;
 - (c) about 5-8% nickel;
 - (d) about 15% silver;
 - (e) about 0.015-0.02% silicon; and
- the balance copper.

12. (Original) The component of claim 2 wherein the alloy consists essentially of:

- (a) about 5-6% phosphorus;
 - (b) about 5-7% tin;
 - (c) about 6-8% nickel;
 - (d) about 15% silver;
 - (e) about 0.01-0.1% silicon; and
- the balance copper.

13. (Original) The component of claim 1 wherein the alloy consists essentially of:

- (a) about 4-7% phosphorus;
 - (b) about 5-7% tin;
 - (c) about 5-8% nickel;
 - (d) about 6-15% silver; and
- the balance copper.

Application Serial No. 10/628,651

Preliminary Amendment dated July 26, 2004

14. (Currently Amended) A method of forming a solid brazing component having a liquidus temperature above 840°F comprising the steps of:

forming an alloy melt consisting essentially of, in weight percent:

- (a) about 4-9% phosphorus;
- (b) about 0.1-10% tin;
- (c) about 0.1-15% nickel;
- (d) ~~up to~~ about 0.1-18% silver;
- (e) up to about 3% silicon;
- (f) up to about 4% antimony;
- (g) up to about 3% manganese; and

the balance copper;

continuously casting the alloy melt into a billet;

fabricating the billet into a solid brazing component selected from the group consisting of wire, strip, foil and preform.

15. (Original) The method of claim 14 wherein the billet is fabricated into a wire by extrusion, the method further comprising drawing the wire one or more times to a final desired thickness.

16. (Original) The method of claim 15 further comprising forming the wire into a preform.

17. (Original) A method of forming a brazed joint comprising the steps of:

forming a solid brazing component by the method of claim 14;

placing the solid brazing component between two metal parts;

heating the solid brazing component to melt at least a major portion of the alloy to cause the alloy to wet and flow between the two metal parts;

cooling the alloy to form a brazed joint with a raised cap between the two metal parts, wherein the brazed joint is substantially free of black metal oxide.

Application Serial No. 10/628,651

Preliminary Amendment dated July 26, 2004

18. (Original) The method of claim 17 wherein the solid brazing component is placed between two copper alloy parts and the brazed joint is visually distinguishable from the parts.

19. (Original) The method of claim 17 wherein the solid brazing component is placed between two tubular shaped parts.

20. (Original) The method of claim 17 wherein the solid brazing component is heated to a temperature less than 1410°F to melt the major portion.

21. (Original) The method of claim 17 wherein the solid brazing component is heated to a temperature less than 1300°F to melt the major portion.

22. (New) A solid brazing component having a liquidus temperature above 840°F selected from the group consisting of wire, strip, foil and preforms, wherein the brazing component is made of an alloy consisting essentially of, in weight percent:

- (a) about 4-9% phosphorus;
- (b) about 0.1-10% tin;
- (c) about 0.1-15% nickel;
- (d) up to about 18% silver;
- (e) about 0.001-3% silicon;
- (f) up to about 4% antimony;
- (g) up to about 3% manganese; and

the balance copper.

23. (New) The component of claim 22 wherein the alloy consists essentially of:

- (d) about 0.1-18% silver.

Application Serial No. 10/628,651
Preliminary Amendment dated July 26, 2004

24. (New) The component of claim 23 wherein the alloy consists essentially of:
(c) about 3-10% nickel.
25. (New) The component of claim 22 wherein the alloy consists essentially of:
(c) about 5-8% nickel.
26. (New) The component of claim 22 wherein the brazing component has a liquidus temperature less than about 1410°F and a solidus temperature less than about 1100°F.
27. (New) The component of claim 26 wherein the alloy consists essentially of:
(b) about 4-8% tin; and
(c) about 5-8% nickel.
(d) about 1-18% silver; and
(e) about 0.001-0.1% silicon.
28. (New) The component of claim 27 wherein the alloy exhibits a major thermal arrest at a temperature below about 1250°F.
29. (New) The component of claim 22 wherein the alloy consists essentially of:
(a) about 4-9% phosphorus;
(b) about 4-8% tin;
(c) about 3-10% nickel;
(d) about 1-18% silver; and
the balance copper.
30. (New) The component of claim 22 wherein the alloy consists essentially of:
(a) about 4-7% phosphorus;
(b) about 4-8% tin;

Application Serial No. 10/628,651
Preliminary Amendment dated July 26, 2004

- (c) about 5-8% nickel;
 - (d) about 6-15% silver;
 - (e) about 0.001-1% silicon; and
- the balance copper.

31. (New) The component of claim 23 wherein the alloy consists essentially of:

- (a) about 5-6% phosphorus;
 - (b) about 6-7% tin;
 - (c) about 5-8% nickel;
 - (d) about 6-10% silver;
 - (e) about 0.015-0.02% silicon; and
- the balance copper.

32. (New) The component of claim 23 wherein the alloy consists essentially of:

- (a) about 5-6% phosphorus;
 - (b) about 6-7% tin;
 - (c) about 5-8% nickel;
 - (d) about 15% silver;
 - (e) about 0.015-0.02% silicon; and
- the balance copper.

33. (New) The component of claim 23 wherein the alloy consists essentially of:

- (a) about 5-6% phosphorus;
 - (b) about 5-7% tin;
 - (c) about 6-8% nickel;
 - (d) about 15% silver;
 - (e) about 0.01-0.1% silicon; and
- the balance copper.

Application Serial No. 10/628,651
Preliminary Amendment dated July 26, 2004

34. (New) The component of claim 22 wherein the alloy consists essentially of:
- (a) about 4-7% phosphorus;
 - (b) about 5-7% tin;
 - (c) about 5-8% nickel;
 - (d) about 6-15% silver; and
- the balance copper.